

AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth below:

1.-34. Canceled

35. (Previously Presented) An apparatus comprising:

first and second fractional-N synthesizers to provide first and second, respective, modulated outphased signals; and

first and second sigma-delta modulators operably coupled to the first and second fractional-N synthesizers, respectively, wherein the first and second sigma-delta modulators are configured to modulate the first and second fractional-N synthesizers, respectively;

wherein one or both of the first and second sigma-delta modulators are configured to adjust an instantaneous frequency of one or both of the first and second fractional-N synthesizers, respectively, based on a desired power level of a transmitted frequency.

36. (Previously Presented) The apparatus of claim 35, further comprising a combiner to combine the first and second modulated outphased signals and to provide a radio frequency transmission signal having a power level substantially equal to the desired power level of the transmitted frequency.

37. (Previously Presented) The apparatus of claim 36, wherein the combiner comprises a reactive termination combiner associated with an adjustable amplifier.

38. (Previously Presented) The apparatus of claim 35, further comprising first and second variable gain amplifiers to adjust amplitudes of the first and second modulated outphased signals, respectively.

39. Canceled

40. (Currently Amended) ~~The apparatus of claim 39, wherein the digital signal processor further comprises~~ An apparatus comprising:

first and second fractional-N synthesizers to provide first and second, respective, modulated outphased signals;

a digital signal processor that includes the first and second sigma-delta modulator modules to control an instantaneous frequency of the first and second fractional-N synthesizers, respectively, based on a desired transmitted frequency; and

a separator module to provide first and second phase derivatives to the first and second sigma-delta modulator modules, respectively.

41. (Previously Presented) An apparatus comprising:

first and second fractional-N synthesizers to provide first and second, respective, modulated outphased signals;

first and second sigma-delta modulators operably coupled to the first and second fractional-N synthesizers, respectively, wherein the first and second sigma-delta

modulators are configured to modulate the first and second fractional-N synthesizers, respectively; and

a separator to provide first and second phase derivatives to the first and second sigma-delta modulators.

42. (Previously Presented) A method comprising:

separating an input signal into first and second phase-shifted signals;

generating first and second outphased signals by first and second fractional-N synthesizers, respectively, wherein the generating comprises modulating the first and second outphased signals using first and second sigma-delta modulators to generate modulated outphased signals, respectively; and

providing first and second phase derivatives of phases of the first and second phase-shifted signals, respectively, to the first and second sigma-delta modulators, respectively.

43. (Previously Presented) The method of claim 42, further comprising:

combining the first and second modulated outphased signals; and

providing a transmission signal based on said combining of said modulated outphased signals.

44. (Previously Presented) The method of claim 42, further comprising varying the amplitudes of the first and second modulated outphased signals.

45. (Previously Presented) A wireless communication system comprising:

a base station to transmit a desired power level value of a transmitted signal; and
a mobile station comprising a transmitter having first and second fractional-N synthesizers to provide first and second modulated outphased signals, respectively, and first and second sigma-delta modulators operably coupled to the first and second fractional-N synthesizers, respectively, to modulate the first and second outphased signals based on the desired power level value of the transmitted signal;

wherein one or both of the first and second sigma-delta modulators are able to adjust an instantaneous frequency of one or both of the first and second fractional-N synthesizers, respectively, based on a desired power level of a transmitted frequency.

46. (Previously Presented) The wireless communication system of claim 45, wherein the transmitter further comprises a combiner to combine the first and second modulated outphased signals and to provide a radio frequency transmission signal having a power level substantially equal to the desired power level of the transmitted frequency.

47. (Previously Presented) The wireless communication system of claim 46, wherein the combiner comprises a reactive termination combiner and an adjustable amplifier.

48. (Previously Presented) The wireless communication system of claim 45, further comprising first and second variable amplifiers to adjust amplitudes of the first and second outphased modulated signals, respectively.

49. (Previously Presented) A wireless communication system comprising:

a base station to transmit a desired power level value of a transmitted signal;
a mobile station comprising a transmitter having first and second fractional-N synthesizers to provide first and second modulated outphased signals, respectively, first and second sigma-delta modulators operably coupled to the first and second fractional-N synthesizers, respectively, to modulate the first and second outphased signals based on the desired power level value of the transmitted signal, and a digital signal processor that includes the first and second sigma-delta modulator modules to control an instantaneous frequency of the first and second fractional-N synthesizers, respectively, based on a desired transmitted frequency.

50. (Previously Presented) The wireless communication system of claim 49, wherein the digital signal processor comprises a separator module to provide first and second phase derivatives to the first and second sigma-delta modulators modules, respectively.

51. (Previously Presented) A wireless communication system comprising:

a base station to transmit a desired power level value of a transmitted signal; and
a mobile station comprising a transmitter having first and second fractional-N synthesizers to provide first and second modulated outphased signals, respectively, first and second sigma-delta modulators operably coupled to the first and second fractional-N synthesizers, respectively, to modulate the first and second outphased signals based on the desired power level value of the transmitted signal, and a separator to provide first and second phase derivatives to the first and second sigma-delta modulators.

52. (Previously Presented) An article comprising a storage medium, having stored thereon instructions that, when executed, result in:

separating an input signal into first and second phase-shifted signals;

generating first and second outphased signals by first and second fractional-N synthesizers, respectively;

modulating the first and second outphased signals using first and second sigma-delta modulators, respectively, to provide modulated outphased signals; and

providing first and second phase derivatives of phases of the first and second phase-shifted signals, respectively, to first and second sigma-delta modulators, respectively.

53. (Previously Presented) The article of claim 52, wherein the instructions of providing, when executed, further result in:

combining the first and second modulated outphased signals; and

providing a transmission signal based on said combining of said modulated outphased signals.

54. (Previously Presented) The article of claim 52, wherein the instructions of providing, when executed, further result in:

varying the amplitudes of the first and second modulated outphased signals.